APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,909	01/21/2000	Hideki Hiura	P4010NP/CSL	5094

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EXAMINER
HOANG, PHUONG N

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/488,909	HIURA ET AL.
	Examiner	Art Unit	
	Phuong N. Hoang	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>24 November 2004</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1 - 21_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1 - 21_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

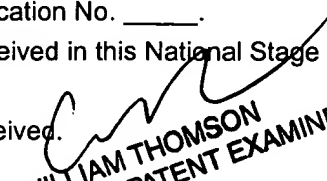8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

:2.81 Reopening of Prosecution - New Ground of Rejection After Appeal or Examiner's Rebuttal of Reply Brief

In view of the new grounds of rejection set forth below, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

1.   Claims 1 – 21 are pending for examination.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 8 – 21 are directed to non-statutory subject matter.

a.   Claims 8 - 11 are not limited to tangible embodiments. In view of applicants' disclosure, specification paragraph (page 10 lines 11 – 18), the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (floppy disks, tape) and intangible embodiments (carrier waves). As such, the claim is not limited to statutory subject matter and is therefore non-statutory. Examiner suggests applicant changes to "computer storage medium" to only refer to tangible embodiments.

b.   Claims 9 – 11 are dependent claims of claim 8. They are rejected for the same reason above.

c.   Claim 12 merely recites a system comprising a global process, a multiple subprocess, a virtual memory separator, a user-specific process, virtual addresses, and an interface. These components are software components, i.e., computer program per se. Such claimed matter, which is non-functional descriptive material per se, is not statutory because it is not a physical "thing" nor a statutory process as there are not "act" being performed. Since a computer program is merely a set of instructions capable of being executed by a computer, the program itself is not a process, without the computer-readable medium needed to realize the computer's functionality. In contrast, a claimed computer-readable medium encoded with a computer program defines structural and functional interrelationships between the computer program and the medium which permit the computer program's functionality to be realized, and is thus mandatory. Examiner suggests that a system claim needs hardware elements

such as processor, memory to enable the process of all software elements in the system.

d.   Claims 13 - 14 are dependent claims of claim 5.   They do not support the deficiency of the independent claim 12. They are rejected for the same reason above.

e.   Claim 15 is directed to a computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things". They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permits the computer program's functionality to be realized. In contract, a claimed computer-readable medium encoded with a computer program is a computer element with defined structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1538-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

f.   Claims 16 – 21 are dependent claims of claim 15. They do not support the deficiency of the independent claim 16. They are rejected for the same reason above.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1 – 11, and 15 - 21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hetherington, US patent no. 6,275,810 in view of Kaufman, US

patent no. 5,313,647.

6.   Hetherington and Kaufman were cited on the last office action.

7.   **As to clam 1**, Hetherington teaches a method for providing for concurrent

subprocessing of a master process, the method comprising the steps of:

interfacing with a master process (daemon, col. 1 lines 25 – 30 and col. 5) when

a user-specific operation (endpoint computer running locale application, col. 4 - 5) is

encountered (interfacing when a specific locale is selected, col. 6 lines 58 – 67);

mapping a user-specific process with the master process (specify the locale to be

mapped, col. 4 lines 49 – 65 and col. 6 lines 58 - 67);

processing the user-specific operation in the user-specific process (running the endpoint application, col. 5 lines 25 – 67).

Hetherington does not explicitly teach the step of mapping so that it overlays virtual addresses of the master process. However, Hetherington teaches that the global process spawns the user-specific process (daemon spawns multiple processes, col. 1 lines 25 – 30 and col. 4). One of ordinary skill in the art would understand that when spawning, the child process would inherent all the property of the parent process.

Kaufman teaches that when spawning, the child would overlay the parent's virtual memory address (vm_folk to duplicate a parent process's virtual memory information for a child process and mapin the overlay object, col. 18 lines 28 – 55, col. 31 lines 14 – 65 and col. 34 lines 10 - 15 and col. 2 lines 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching Hetherington and Kaufman's system because Kaufman's duplicating virtual memory address in the spawning process would let the child process virtual address overlays the parent's process virtual address when it inherits all property of the parent's process to have an identical or mirror address of the parent.

8.   **As to claim 2**, Hetherington teaches the steps comprising the of transferring data between the master process and the user-specific process (mapping, col. 4 lines 50 – 65 and col. 6 lines 58 – 65) using a communication channel that does not require the serialization of data (IPC facility 19, col. 12 – 20).

9.   **As to claim 3**, Hetherington modified by Kaufman teaches the step of providing

an interface (Hetherington; map, col. 4 lines 50 – 65 and col. 6 lines 58 – 65) for the

user-specific process that mirrors (Kaufman; duplicate, col. 31 lines 14 – 20) an

interface for the master process.

10.   **As to claim 4**, Hetherington teaches the steps of wherein the master process is

a global locale process (daemon containing multiple locales, col. 6) and the user-

specific process is a locale-specific process (enppoint application running locale-

specific, col. 6).

11.   **As to claim 5**, Hetherington teaches the step of wherein the user-specific

process is mapped after the user-specific operation is encountered (mapped when user

specifies the locale, col. 6 lines 58 – 65).

12.   **As to claim 6**, Hetherington teaches the step of wherein the user-specific

process is mapped before the user-specific operation is encountered (the default locale,

col. 6 lines 10 – 25).

13.   **As to claim 7**, Hetherington teaches the step of returning processing to the

master process after processing the user-specific operation in the user-specific process

(the server maintains the mapping process, col. 4 lines 50 – 67).

14.   **As to claim 8,** it is the medium claim of claim 1. See rejection for claim 1 above.
Further, Hetherington teaches the step of mapping a plurality of concurrent user-specific
processes (Gregorian, Hijri, and Hebrew may be selected and mapped, col. 6 lines 58 –
67 and col. 4 lines 49 – 65) to the global process.

15.   **As to claim 9,** Hetherington teaches the instructions (instructions, col. 15 lines
60 – 65), when executed, provide each of the plurality of concurrent user-specific
processes with an interface that is identical to an interface of the global process.

16.   **As to claim 10,** Hetherington modified by Kaufman teaches the steps of
mapping sub-processes within each of the plurality of user-specific processes, the sub-
processes being mapped to virtual addresses that are equivalent to virtual addresses
(vm_folk to duplicate a parent process's virtual memory information for a child process,
col. 31 lines 14 – 20 and col. 2 lines 1 – 5) for user-specific operations of the global
process.

17.   **As to claim 11,** Hetherington teaches the step of returning processing to the
global process after execution of the sub-processes is complete (the server maintains
the mapping process, col. 4 lines 50 – 67).

18.   **As to claim 15**, it is the apparatus claim of claim 1. See rejection for claim 1

above.

19.   **As to claims 16 – 21**, see rejection for claims 2 – 7 above.

20.   **Claims 12 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Kaufman, US patent no. 5,313,647 in view of Hetherington, US patent no.

6,275,810.

21.   **As to claim 12**, Kaufman teaches a computer system for enabling concurrent

multiple sub-process handling in a global process environment, the system comprising

the steps of:

      a global process (parent process, col. 31 lines 15 – 20); and

      a virtual memory separator (vm_folk to duplicate a parent process's virtual

memory information for a child process, col. 31 lines 14 – 65, col. 34 lines 10 – 15, and

col. 2 lines 1 – 5) that maps a child process to virtual addresses that mirror virtual

addresses of the global process, the child process having an interface that mirrors an

interface of the global process.

      Kaufman does not explicitly teach that the child process is a user-specific

process.

Hetherington teaches that the child process is a user-specific process (endpoint running locale application, col. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching Kaufman and Hetherington's teaching because Hetherington's user-specific process would provide the child process to run on an application having user-specific environment.

22.   **As to claim 13,** Hetherington teaches the step of wherein the global process is a global locale process (daemon contains all locales, col. 5) and wherein the user-specific process is a locale-specific process (endpoint application is locale application, col. 5).

23.   **As to claim 14,** Hetherington teaches the step of wherein the global process is a global daemon process (daemon spawns multiple processes, col. 1 lines 25 – 30) and wherein the user-specific process is a user-specific daemon process (each endpoint contains a daemon, col. 4 lines 50 - col. 5 lines10).

Response to Arguments

24.   Applicant's arguments filed 12/28/05 have been fully considered but they are not persuasive.

25.   Applicant argued in substance that

(1)   Kaufman does not teach the child overlaid the virtual address of the

parent. Forking is not the same as overlaying virtual address. Copying or duplication

of information is not the same as copying or sharing the same virtual address.

(2)   Context address space mapping is not virtual address space mapping.

26.   Examiner respectfully disagrees with applicant's remark.

As to point 1, applicant claimed mapping **so that** the child overlaid the virtual

address of the apparent. Folking duplicates the virtual memory information

including the memory address, and when two virtual memories are the same, it

could overlay the virtual address of the parent (vm_folk to duplicate a parent

process's virtual memory information for a child process, call

vm_obj_create_overlay to associate the new file with an overly of the

original...mapin the overlay object, and the memory address consists of virtual

address and context address, col. 18 lines 28 – 55, col. 31 lines 14 – 65 and col.

34 lines 10 - 15 and col. 2 lines 1 – 5). Sharing has different meaning than

overlaying in the claim.

As to point 2, examiner remapped to clarify the claimed language.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Phuong N. Hoang whose telephone number is

(571)272-3763. The examiner can normally be reached on Monday - Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ph
March 20, 2006

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER